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MANUAL PREVIEW

J.I. Case

Service Manual

W3

Tractor, Loader & Backhoe

Volume 1 of 2

Service Manual

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CA-S-W3 TLB

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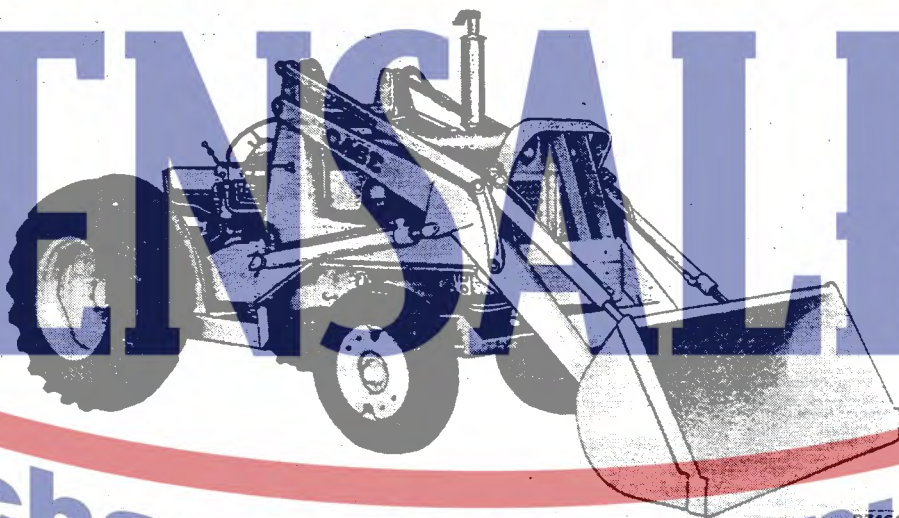
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Right Hand Front View - Drawbar Model

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- When installing new bushing in the rocker arms, make certain the oil hole in the bushing is in the top position as shown in Figure 5. After replacing bushing, ream to .624 to .625 inch.

NOTE: New replacement rocker arms are supplied complete with bushings installed.

- Examine the rocker shaft for wear. Replace if there are any indications of shoulders on the shaft.
- Proper assembly of rocker arms with relation to the oil hole in the shaft is shown in Figure 6. Improper lubrication will result, if the drilled hole is reversed.

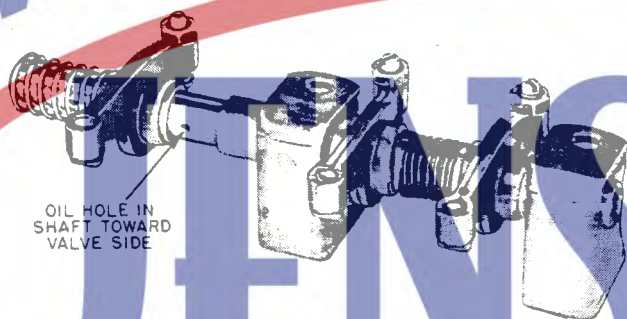


Figure 6 - Oil Hole in Shaft

- When reassembling rocker arms on shaft, make certain the right and the left hand rocker arms are assembled in their respective positions, see Figure 7.

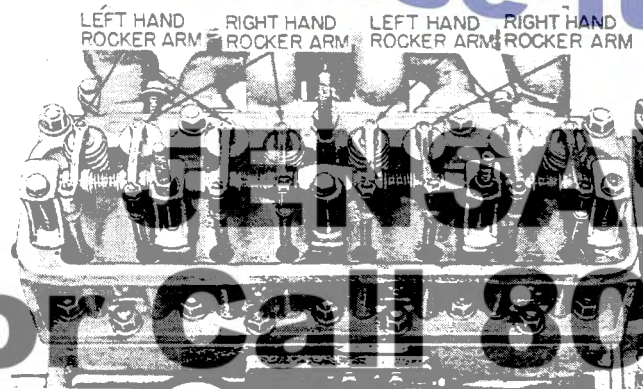


Figure 7 - Right Hand and Left Hand Rocker Arms

- When replacing the rocker arm assembly, the cap screws and stud nuts are tightened 25 to 30 ft. lbs. with a torque wrench.

SERVICING CYLINDER HEAD

In order to perform further servicing of the cylinder head assembly, it must be removed from the engine as follows:

- Disconnect throttle rod at governor arm.
- Remove carburetor and manifold as a unit. Unless servicing of one of these assemblies is required, no further disassembly is necessary, see Figure 8.



Figure 8 - Manifold Assembly

- Remove water outlet elbow with hose and thermostat as a unit, see Figure 9. For further servicing, see Figure 74.

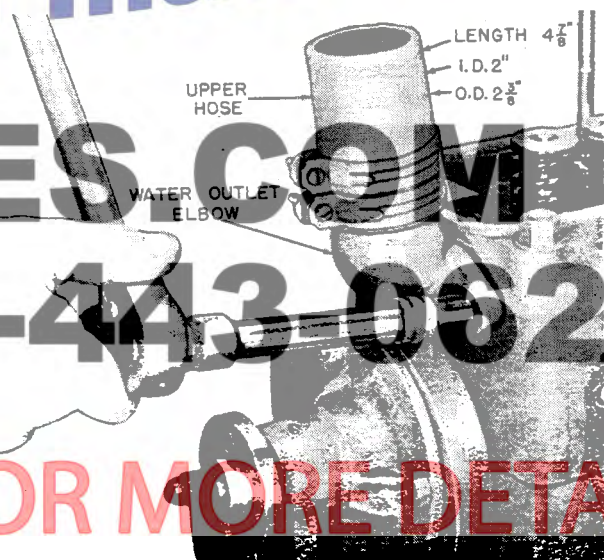


Figure 9 - Removing Water Outlet Elbow

GROUP B - GASOLINE ENGINE TROUBLE SHOOTING CHART



STARTING MOTOR WILL NOT TURN ENGINE OVER

PROBABLE CAUSE

1. Battery discharged.
2. Battery terminals or ground cables loose or corroded.
3. Starting motor faulty.
4. Starter drive gear jammed in flywheel.
5. Piston locked in engine cylinder.
6. Poor starting switch contact.
7. Engine cylinder full of water.

SUGGESTED REMEDY

1. Charge or replace battery.
2. Remove and clean.
3. Have motor serviced.
4. Remove starting motor.
5. Free up piston. Inspect head gasket for leaks.
6. Replace switch.
7. Check head gasket, head, and block.

ENGINE WILL NOT START (NO SPARK)

PROBABLE CAUSE

1. Ignition switch partly on.
2. Ignition switch faulty.
3. Distributor points burned, pitted, or dirty.
4. Distributor points not opening or points not closing.
5. Loose or corroded ground or battery cable connections.
6. Primary wire from coil to distributor broken, grounded or out of terminals.
7. Short-circuit in coil.
8. Short-circuit in condenser or broken condenser lead.
9. Short-circuited or burned distributor cap or rotor.
10. Spark plug, distributor cap, or wires wet (shorted).
11. Spark plug gaps incorrect.
12. Ignition timing incorrect.
13. Ignition wires installed wrong in distributor.
14. Short-circuited wire between ammeter and ignition switch or coil.

SUGGESTED REMEDY

1. Turn on fully.
2. Replace switch.
3. Clean or replace and adjust. Check ground connection and condenser.
4. Replace or clean and adjust.
5. Clean or replace and tighten.
6. Repair or replace.
7. Replace coil.
8. Replace condenser or replace lead.
9. Replace part.
10. Dry and clean thoroughly.
11. Reset gaps.
12. Set timing.
13. Install in proper terminals.
14. Repair or replace wire.

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*Also covers service of Model 420B Wheel Tractor Torque Converter.

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Section XII - Loader and Backhoe

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RIGHT HAND FRONT VIEW WITH LOADER

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LEFT HAND REAR VIEW WITH LOADER AND BACKHOE

GROUP D - HYDRAULIC SYSTEM

TROUBLE SHOOTING CHART

PROBABLE CAUSE	SUGGESTED REMEDY	REFERENCE
PUMP NOISY		
1. Hydraulic oil level too low.	1. Fill to proper level and check for leak.	See page XII - 5
2. Clogged or collapsed suction line to pump.	2. Check suction line for restriction.	—
3. Air leaks in suction line.	3. Check suction line for leaks.	—
4. Pump running too fast.	4. Reduce engine R.P.M.	See page XII - 17
5. Too heavy viscosity oil for prevailing air temperature.	5. Use Case Hi-Lo TCH Oil.	See page XII - 5
6. Oil not warmed up to operating temperature.	6. Allow oil to warm up before operating system.	See page XII - 5
7. Contaminated oil.	7. Drain oil, clean filter, and flush system.	See page XII - 5
8. Dirty reservoir breather(s) (clogged).	8. Clean breather(s).	See page XII - 5
9. Bent pump driveshaft.	9. Check shaft alignment between pump and engine.	—
10. Worn splines in pump drive-shaft or coupling.	10. Replace coupling or shaft.	—
11. Pump low pressure (outer) seal worn, sucking in air.	11. Replace seal.	See page XII - 8
12. Pump front cover bolts loose.	12. Tighten bolts.	See page XII - 8
13. Pump mounting bolts loose.	13. Tighten bolts and check pump alignment.	See page XII - 8
14. Damaged pump due to overheating because of a lack of oil, etc.	14. Service pump.	See page XII - 8
15. Pump bearing or journals worn.	15. Service pump.	See page XII - 8

HYDRAULIC OIL FOAMS (AERATED)

1. Hydraulic oil level too low.	1. Fill to proper level and check for leaks.	See page XII - 5
2. Clogged or collapsed suction line to pump.	2. Check suction line for restriction.	—
3. Air leaks in suction line.	3. Check suction line for leaks.	—
4. Pump running too fast.	4. Reduce engine R.P.M.	See page XII - 17
5. Too heavy viscosity oil for prevailing air temperature.	5. Use Case Hi-Lo TCH Oil.	See page XII - 5
6. Oil not warmed up to operating temperature.	6. Allow oil to warm up before operating system.	See page XII - 5
7. Contaminated oil.	7. Drain oil, clean filter, and flush system.	See page XII - 5
8. Dirty reservoir breather(s) (clogged).	8. Clean breather(s).	See page XII - 5
9. Pump low pressure (outer) seal worn, sucking in air.	9. Replace seal.	See page XII - 8
10. Pump front cover bolts loose.	10. Tighten bolts.	See page XII - 8

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